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June 23, 2011

Mr. James Burlow
Director
Program Implementation and Information Division
Office of Resource Conservation and Recovery 5303P
Environmental Protection Agency
Ariel Rios Building,
1200 Pennsylvania Avenue, N.W.
Washington, DC 20460-0002

Dear Mr. Burlow:

Entsorga West Virginia LLC (Entsorga). formally requests the United States Environmental Protection Agency (US EPA) provide a determination that the non-hazardous Solid Refuse Fuel (SRF) to be manufactured and sold by Entsorga as an alternate fuel meets the "Legitimacy Criteria" as defined in 40 CFR 241, "*Subpart B - Identification of Non-Hazardous Secondary Materials That Are Solid Wastes When Used as Fuels or Ingredients in Combustion Units*". The Legitimacy Criteria are further specified in Section 241.3, "*Standards and Procedures for Identification of Non-Hazardous Secondary Materials That are Solid Wastes When Used as Fuels or Ingredients in Combustion Units*".

Provided below is a Project Description of the Entsorga SRF manufacturing facility and a Legitimacy Criteria Analysis for planned use of SRF as an alternate fuel.

PROJECT DESCRIPTION

Entsorga is proposing to construct and operate a SRF manufacturing facility (Facility). The Facility will be designed to accept mixed municipal solid waste (MSW) and process this material into a SRF. It is Entsorga's intent to market the SRF to industrial manufacturing companies that traditionally use coal and petroleum coke in their combustion units. Specifically, Entsorga is proposing to build a new SRF Facility (Facility) in Martinsburg, West Virginia. The Facility intends to provide the Capital Cement Corporation (Capital), which is part of the Essroc Cement Corporation (Essroc), Martinsburg, Berkeley County, West Virginia Portland cement Plant (Plant) proposes to use SRF to supplement their use of tradition fuels, which includes bituminous coal and petroleum coke, in their cement kiln system. At the Facility, the MSW will be converted

to SRF using a Mechanical Biological Treatment (MBT) process. The SRF will be sold by Entsorga to Capital under the name, "*Prometheus*."

Entsorga Italia S.p.A., (Entsorga Italia), Entsorga parent company and owner of the proprietary MBT technology, has designed and build 4 currently operating facilities (outside of the United States) similar to the planned Facility. Entsorga's MBT process has been in use in Europe for over 10 years. The proven MBT technology has successfully been used to meet European reduced landfill disposal requirements, develop more economically feasible methods for municipal solid waste disposal, and create an environmentally low impact method of solid waste disposal.

The MBT process is completed in four stages:

- Reception
- Pre-treatment
- Biological treatment, and
- Refining

The MBT process takes approximately 15 to 20 days from the time of receipt of the MSW at the Facility to the generation of the SRF.

The individual MSW materials processed at the Facility are anticipated to include the following:

- Mixed unsorted paper,
- Green/kitchen organics,
- Organic content contained in packaging and
- Discarded textiles

Only mixed, unsorted MSW is anticipated to be used the Facility. No hazardous waste or source separated recyclables will be accepted by the Facility. The MSW will be managed according to Federal, State of West Virginia, and local regulations as a "solid waste" until the MSW undergoes the MBT process resulting in the production of SRF.

The SRF is of the consistency of ground paper or fluff. As a result, Entsorga will store the SRF indoors and load the SRF into trucks for transport to the Plant inside the Facility. The building where the truck loading will occur will be equipped with air pollution control devices (baghouses) to negate the impacts of particulate emissions to the environment.

Entsorga is currently in negotiations with a local waste hauler for the use of their MSW which they collect from residential customers located in the Martinsburg, West Virginia area. In addition, Entsorga has completed negotiations with Capital which plans to use the SRF as an alternate fuel for their kiln system. Capital has already committed to

constructing a new storage and alternate fuel handling system at the Plant to accommodate the use of SRF as an alternate fuel.

Capital has an existing West Virginia Department of Environment Protection (WV DEP), Title V Permit to Operate (Title V) which already has provisions to use alternate fuels. In their Title V Permit, Capital is permitted to burn coal, coal fines, coke, and onsite generated petroleum contaminated soils. If the Plant plans to use alternative fuels including but not limited to, tires, wood, paper cardboard, non-PVC plastics, automobile fluff, carpets, non-hazardous liquids/solids, and refuse derived fuels, Capital is only required to notify the WV DEP Director in writing within thirty (30) days of the use of the alternate fuel with no additional air permitting requirements expected to be required.

LEGITIMACY CRITERIA ANALYSIS

Non-hazardous secondary materials used as non-waste fuels in combustion units must meet the legitimacy criteria specified in Sec. 241.3(d)(1) of the Solid Waste Rule. The legitimacy criteria were further explained in the preamble to the rule (76 FR 15456, dated March 21, 2011.) The SRF meets the definition of a non-hazardous secondary material which is not a solid waste when combusted, as stated in 40 CFR 241.3(d)(1). This demonstration is provided below.

The SRF will be used in a combustion unit (i.e., the cement kiln system). Also, the SRF is produced from the processing of discarded non-hazardous secondary materials (i.e., MSW) which meets the legitimacy criteria requirements. To meet the legitimacy criteria requirements, the non-hazardous secondary material must be:

1. Managed as a valuable commodity,

2. Have a meaningful heating value and used as a fuel, and

3. Contain contaminants at concentrations comparable to (or lower than) those in traditional fuels which the combustion unit is designed to burn.

Provided below is an analysis of each of these three legitimacy criteria.

1. Managed as a Valuable Commodity

The first element to managing the "product" as a valuable commodity, as identified in the preamble to 40 CFR 241, Subpart B, is the time-frame for the storage of the product. The MSW will be delivered to the Facility as "black bag" waste and will remain on the Facility production area floor for a maximum of two days. The MSW meets the definition of a non-hazardous secondary material as provided in the preamble to 40 CFR

241, Subpart B which states, "any material that is not the primary product of a manufacturing or commercial process, and can include post-consumer material, off-specification commercial chemical products or manufacturing chemical intermediates, post-industrial material, and scrap (codified in § 241.2). ''Nonhazardous secondary material'' is a secondary material that, when discarded, would not be identified as a hazardous waste under 40 CFR part 261 (codified in § 241.2).) The MSW will undergo a series of process stages before the MSW is transformed into SRF and used as an alternate fuel by the Plant's kiln system which is already classified by the WV DEP Title V as a combustion unit. The SRF will be stored in the Facility for short period of time (i.e., seven days or less) prior to delivery to the Plant. Currently, Entsorga is assisting Essroc and the Plant with preliminary engineering design for the storage and handling of the SRF prior to being introduced to the kiln system as an alternate fuel.

At the Plant, the preliminary engineering design currently consists of constructing an indoor storage area in the existing Coal Storage Hall. The Coal Storage Hall is a covered building equipped with particulate dust collectors to control particulate emissions associated with fuel handling activities. Due to the close proximity of Facility to the Plant (i.e., located within 10 miles of each other), the amount of SRF stored at both locations will be minimized since SRF transportation and delivery time is not a critical issue. On average, bituminous coal and petroleum coke are stored at the Plant for no longer than one month prior to their use in the cement kiln system. Because of the fibrous consistency of the SRF, as well as the concern for fire safety, it is expected that Capital will limit the number of days for SRF to be stored at the Plant to seven days. Therefore, frequent shipments of small quantities of the SRF are more likely to occur between the Facility and the Plant.

Due to the properties of the SRF, it can be stored in a storage pile or a storage bin similar to coal and petroleum coke. The SRF is not required to be stored in a tank or required to have any secondary containment. As previously noted, the SRF has a fibrous "paper-like" consistency. Analogous to bituminous coal and petroleum coke, the SRF is subject to wind erosion, and therefore it is best to store the SRF indoors to prevent the occurrence of any fugitive air emissions. Additionally, storage of SRF indoors will minimize or eliminate the possibility of any storm water run-off. There is expected to be negligible environmental impact associated with the transport, storage, and use of SRF at the Plant.

The SRF is intended to be manufactured as an alternate fuel to offset the use of traditional fuels by up to 15 percent in the cement manufacturing process. This has been the standard that has been established in Portland cement manufacturing plants in Europe The expected sales of the SRF is currently estimated to be between $20.00 to $35.00 per ton and result in a conservative estimate of $2.7 million per year in gross revenue which clearly demonstrates that the SRF is a valuable commodity.

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2. Meaningful Heat Value and Use as a Fuel

In the preamble to 76 FR 15456 of March 21, 2011, it is suggested that non-hazardous secondary materials be compared with traditional fuels to determine analogous heat values and contaminants. As shown by Table 1, Entsorga completed the comparison of the SRF to traditional fuels using the US EPA "Materials Characterization Paper in Support of the Final Rulemaking: Identification of Nonhazardous Secondary Materials That Are Solid Waste Traditional Fuels and Key Derivatives," (Materials Characterization Paper) dated February 7, 2011. The fuel comparison included in this determination request includes coal and coke breeze. The data for the SRF was obtained through laboratory analysis of Entsorga produced SRF conducted during May, 2011.

According to the US EPA OAQPS Survey provided in the referenced Materials Characterization Paper, the heat value for coal is 14,000 Btu/lb. The revised draft Cement Sector Trends in Beneficial Use of Alternative Fuel and Raw Materials (USEPA, October 2008) states that the lower heat value of coal is 11,000 Btu/lb. As an informal industry standard, it is understood that cement plants traditionally do not use materials as alternate fuels if they have a heat value of 5,000 Btu/lb or less. This is reinforced in the 62 FR 24251, May 2, 1997 as cited in the preamble to the rule (76 FR 15456, dated March 21, 2011.) The SRF has a measured heat value of 11,114 Btu/lb which is considered as a meaningful heat value.

3. Comparison of Contaminant Levels

Based on the preamble to 76 FR 15456 of March 21, 2011, "contaminants" are defined as those 187 hazardous air pollutants (HAPs) regulated under Section 112(b) of the Clean Air Act (CAA) and the nine pollutants regulated under Section 129(a)(4) of the CAA. Contaminants are those that have the potential to result in an air emission that has either a health or an environmental impact. Based on the definition of contaminant, a "non-contaminant" is defined for this analysis as any chemical constituent which is not one of the 187 HAPs regulated under Section 112(b) of the CAA and not one of the nine pollutants regulated under Section 129(a)(4) of the CAA. Non-contaminants do not have the potential to result in an air emission that has either a health or an environmental impact.

The individual chemical constituents and corresponding chemical concentrations contained in the bituminous coal and petroleum coke (traditional fuels consumed at the Plant) used in this analysis were obtained from the Material Characterization Paper A total of 47 different chemical constituents applicable to bituminous coal and bituminous

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coke were listed in the Materials Characterization Paper. Of these 47 chemical constituents, some are classified as contaminants and others are classified as non-contaminants.

Entsorga analyzed the SRF for the 47 different chemical constituents listed in the EPA document. The analysis was conducted by an US EPA-certified laboratory. Tables 1 and 2 present the results of this analysis for contaminants and non-contaminants, respectively. Table 1 shows that the 15 SRF contaminant concentrations when compared to their corresponding bituminous coal and bituminous coke contaminant concentrations, the SRF contaminant concentrations are lower for all 15 constituents.

Table 2 presents the chemical constituent data for SRF and corresponding bituminous coal and bituminous coke for the remaining 32 non-contaminants. This data is provided for general information only, since non-contaminants do not have the potential to result in an air emission that has either a health or an environmental impact.

SUMMARY AND CONCLUSIONS

This Legitimacy Criteria Analysis of the SRF demonstrates that all three of the legitimacy criteria have been successfully met. Therefore, it is concluded from this analysis that the SRF should be classified by the US EPA as an alternate fuel and not a solid waste. This determination by the US EPA would assure that the Portland cement manufacturing industry would not be subject to the revised CISWI Rule when enacted due to the use of the SRF as an alternate fuel.

If you have any questions on this analysis, please do not hesitate to contact me directly (910-616-2993).

Sincerely,

Pietro Cella Mazzariol
Principal Officer
Entsorga WV LLC.

TABLE 1

COMPARISON OF ENTSORGA WV SRF TO EPA MATERIAL CHARACTERIZATION TRADITIONAL FUELS AND KEY DERIVATIVES

CONTAMINANT ANALYSIS

CONTAMINANT ANALYSIS					
CHEMICAL CONSTITUENT[1]	ENTSORGA WV LLC SRF		EPA MATERIALS CHARACTERIZATION PAPER		ENTSORGA WV SRF </= EPA TRADITIONAL FUELS?
	Units	G&C Analysis (Dry Basis)[2]	Bituminous Coal[4] (Average)	Bituminous Coke[3] (Average)	
Antimony (Sb)	mg/kg (ppm)	0.21	11.07	Not Detected	Yes
Arsenic (As)	mg/kg (ppm)	0.11	4.42	1.70	Yes
Benzene[7]	mg/kg (ppm)	<0.02	21.50	Not Available	Yes
Beryllium (Be)	mg/kg (ppm)	0.36	1.35	Not Available	Yes
Cadmium (Cd)	mg/kg (ppm)	0.23	1.13	Not Available	Yes
Chlorine (Cl)[8]	mg/kg (ppm)	1,807.00	3,705.00	Not Available	Yes
Chromium (Cr)[6]	mg/kg (ppm)	50.61	61.90	1.50	Yes
Cobalt (Co)	mg/kg (ppm)	2.01	6.51	Not Available	Yes
Lead (Pb)[9]	mg/kg (ppm)	28.35	32.00	0.74	Yes
Manganese (Mn)	mg/kg (ppm)	11.61	25.98	10.10	Yes
Mercury (Hg)[5]	mg/kg (ppm)	1.51	2.00	0.034	Yes
Nickel (Ni)	mg/kg (ppm)	4.70	15.36	Not Available	Yes
Phosphorus (P)[9]	mg/kg (ppm)	1,181.93	1,400.00	Not Available	Yes
Selenium (Se)	mg/kg (ppm)	1.82	2.16	0.56	Yes
Toluene	mg/kg (ppm)	<0.02	Not Available	Not Available	Yes

NOTES:

1. Chemical constituent list is from the Materials Characterization Paper in support of the Final Rulemaking: Identification of Nonhazardous
2. All constituents are reported on a dry basis, except for the % moisture which is reported as received by the laboratory.
3. Table 2-2, Composition of Bituminous Coke, Material Characterization Paper, data for Coke Breeze.
4. From EPA Materials Characterization Paper, Values as reported in EPA/OAQPS Survey except for chromium and mercury.
5. Value represents coal international sample average.
6. Value represents mid-point of bituminous coal range as reported in EPA/OAQPS Survey.
7. Value represents the mid-point of sample values taken from literature, Table 2-1, Material Characterization Paper.
8. Value represents coal international sample range mid-point.
9. Value represents upper end of range of bituminous coal as reported in EPA/OAQPS Survey.

TABLE 2

COMPARISON OF ENTSORGA WV SRF TO EPA MATERIAL CHARACTERIZATION TRADITIONAL FUELS AND KEY DERIVATIVES

NON-CONTAMINANT ANALYSIS

NON-CONTAMINANT ANALYSIS					
CHEMICAL CONSTITUENT[1]	ENTSORGA WV SRF		EPA MATERIALS CHARACTERIZATION PAPER		ENTSORGA WV SRF </= THAN EPA TRADITIONAL FUELS?[4]
	Units	G&C Analysis (Dry Basis)[2]	Bituminous Coal (Average)	Bituminous Coke[3] (Average)	
Water content	wt%	8.72	-	7.30	N/A
Volatiles	wt%	78.79	2.30	2.30	N/A
Ash	wt%	14.37	5.20	11.00	N/A
Caloric Value: HHV	Btu/lb	11,114.00	Not Available	Not Available	N/A
Aluminum (Al)	mg/kg (ppm)	5,350.15	Not Available	4.66	N/A
Barium (Ba)	mg/kg (ppm)	59.17	Not Available	11.14	N/A
Carbon (C)	mg/kg (ppm)	435,000.00	Not Available	Not Available in mg/kg, % Only	N/A
Copper (Cu)	mg/kg (ppm)	41.21	Not Available	20.00	N/A
Fluorine (F)	mg/kg (ppm)	41.00	66.80	Not Available	N/A
Hydrogen (H)	mg/kg (ppm)	51,800.00	Not Available	Not Available in mg/kg, % Only	N/A
Iron (Fe)	mg/kg (ppm)	1,204.42	Not Available	2,500.00	N/A
Magnesium (Mg)	mg/kg (ppm)	89.71	Not Available	Not Available	N/A
Molybdenum (Mo)	mg/kg (ppm)	9.50	Not Available	Not Available	N/A
Nitrogen (N)	mg/kg (ppm)	7,300.00	12,700.00	Not Available in mg/kg, % Only	N/A
Oxygen (O)	mg/kg (ppm)	377,600.00	Not Available	Not Available in mg/kg, % Only	N/A
Potassium (K)	mg/kg (ppm)	536.71	Not Available	Not Available	N/A
Silicon (Si)	mg/kg (ppm)	3.30	Not Available	Not Available	N/A
Sodium (Na)	mg/kg (ppm)	200.31	Not Available	Not Available	N/A
Strontium (Sr)	mg/kg (ppm)	43.47	Not Available	Not Available	N/A
Sulfur (S)	mg/kg (ppm)	1,800.00	19,700.00	Not Available in mg/kg, % Only	N/A
Tin (Sn)	mg/kg (ppm)	36.37	Not Available	Not Available	N/A
Titanium (Ti)	mg/kg (ppm)	20.29	Not Available	Not Available	N/A
Vanadium (V)	mg/kg (ppm)	1.03	Not Available	Not Available	N/A
Zinc (Zn)	mg/kg (ppm)	125.74	Not Available	Not Available	N/A
Silicon Dioxide	% of Ash	30.89	Not Available	Not Available	N/A
Aluminum trioxide	% of Ash	13.64	Not Available	Not Available	N/A
Ferric Oxide	% of Ash	3.50	Not Available	Not Available	N/A
Calcium Oxide	% of Ash	36.86	Not Available	Not Available	N/A
Magnesium Oxide	% of Ash	2.31	Not Available	Not Available	N/A
Titanium Oxide	% of Ash	3.29	Not Available	Not Available	N/A
Sodium Oxide	% of Ash	4.30	Not Available	Not Available	N/A
Potassium Oxide	% of Ash	2.65	Not Available	Not Available	N/A

NOTES:

1. Chemical constituent list is from the Materials Characterization Paper in support of the Final Rulemaking: Identification of Nonhazardous
2. All constituents are reported on a dry basis, except for the % moisture which is reported as received by the laboratory.
3. Table 2-2, Composition of Bituminous Coke, Material Characterization Paper, data for Coke Breeze.
4. The comparitive analysis only is applicable to contaminants.